ESO-1769

Branded Product Licensing: An Alternative International Marketing Strategy for Food and Beverages

Ian M. Sheldon and Dennis R. Henderson

Department of Agricultural Economics and Rural Sociology,

The Ohio State University.

November 1990

Abstract

Empirical evidence shows international licensing of the production and marketing of branded food and related products to be an important aspect of the globalization of the food industry. For example, Coca-Cola and Pepsi-Cola license the canning and distribution of their final products in overseas markets, Anheuser-Busch and Miller license production of various of their beer brands, Nestlé chocolate products are manufactured under license in the US by Hershey.

The purpose of this paper is twofold; first, in Section 1 empirical evidence on the extent of international licensing is presented. Second, recent theoretical literature on licensing has dealt only with the licensing of process technologies, Section 2 considers the possible motives for branded product licensing using a simple game-theoretic structure. The results suggest imperfect competition in overseas markets and imperfect information may be important determinants of international product licensing. For a licensor, product licensing can be treated as a substitute for either exporting or direct foreign investment, or as part of a long-term strategy for overseas market development. For a licensee, licensing may represent either a lower cost method of product line extension or/and a means of discouraging market entry by a foreign competitor.

Branded Product Licensing: An Alternative International Marketing Strategy for Food and Beverages

Introduction

Traditionally, firms market their products overseas either through exports or direct investment in foreign production and marketing facilities. Empirical evidence for and analysis of these activities by food manufacturing firms is becoming fairly well documented (see for example, Handy and MacDonald, 1989, Henderson and Frank, 1990 and Handy and Henderson, 1990). However, a third form of international transaction, branded product licensing, has been identified in work by Sheldon and Henderson (1990), but has received scant attention in the agricultural economics and economics literature. For example, recent work in the area of industrial organization has focussed exclusively on the licensing of process technology rather than branded products (see Tirole, 1989, for a survey).

Food product licensing can be defined as an economic transaction where a food manufacturer, based in one country, with property rights over a particular brand, licenses the rights for production and marketing of this product to another firm operating overseas. Observation suggests that international licensing of the production and marketing of branded food and related products is an increasingly important aspect of the globalization of the food industry, particularly in sectors such as soft drinks, processed meats, confectionery products and brewing. A survey of the world's leading food manufacturing firms indicates that at least half of those with international operations are engaged in product licensing.

The purpose of this paper is to consider the possible motives for food manufacturing firms to license their branded products to overseas firms. This analysis suggests that for a *licensor*, product licensing can be treated as either a substitute for exporting or direct foreign

investment, or as part of a long-term strategy for overseas market development. In the case of a *licensee*, licensing may represent either a lower cost method of product line extension or/and a means of discouraging entry by a foreign competitor. Section 1 outlines some empirical evidence for brand licensing in the food processing and beverage sectors. Section 2 considers the possible motives for such licensing using a simple game-theoretic structure. The results of this analysis indicate that imperfect competition in overseas markets and imperfect information may be important determinants of international licensing. Finally, in Section 3, the strategic implications of international licensing are considered.

1. Branded Food Products and Licensing

As a form of business activity, the licensing of branded food and related products has existed for many years in both the US and other developed countries' food processing sectors. For example, both Coca-Cola and Pepsi-Cola have licensed the domestic canning and distribution of their final products. The activity also crosses national borders. For example, Cadbury-Schweppes and Britvic-Corona own the UK canning and distribution rights to "Coca-Cola" and "Pepsi-Cola" respectively; Hormel (US) licenses production of "Spam" luncheon meats to Newforge Foods in the UK, K.R. Darling Downs in Australia and others; the chocolate products "Kit-Kat" and "Rolos", both made in the UK by Nestlé-Rowntree, are manufactured under license in the US by Hershey; both Anheuser-Busch and Miller license production of their various beer brands to brewers in Canada, the UK and other European countries. **Table 1** lists a sample of food and related product licenses which have been noted in firms' accounts.

Table 1 : Examples of International Food and Beverage Licenses

Licensor/Product	Licensee
Anheuser-Busch, US	
"Budweiser"	Labatt, Canada
	United Breweries, Denmark
	Grand Metropolitan, UK
Arla, Sweden	
"L+L Dairy Spread"	Morinaga, Japan
Cadbury, UK	
"Cadbury Dairy Milk"	Hershey, US
"Cadbury Fruit and Nut"	Hershey, US
CPC, US	
"Knorr"	Ajinmoto, Japan
Hormel, US	
"Spam"	Newforge Foods, UK
	K.R. Dowling Downs, Australia
Kirin, Japan	
"Kirin"	Molson, Canada
Miller, US	
"Miller Lite"	Molson, Canada
	Courage, UK
Morinaga, Japan	
"Bifidus Yogurt"	St. Hubert S.A., France
	Sudmilch AG, Germany
"Morinaga Infant Formula"	P.T. Enseval, Indonesia
Phillip Morris/Kraft, US	
"Kraft Margarine"	Epic Oil Mills, South Africa
"Kraft Salad Dressing"	Epic Oil Mills, South Africa
Phillip Morris/Jacob Suchard, US/Switzerland	
"Sugus"	Nestlé Produtos Alimentaros, Portugal
	Beacon Sweets and Chocolates, South Africa
	P.T. Super Worldwide Foodstuffs, Indonesia
	Sanborn Hermanos, S.A., Mexico
"Toblerone"	Sanborn Hermanos, S.A., Mexico
"Suchard"	Sanborn Hermanos, S.A., Mexico
	Tong Yang Confectionery, Korea
	Nestlé Produtos Alimentaros, Portugal
"Milka"	Sanborn Hermanos, S.A., Mexico
"Van Houten"	Chocolate Products Manufacturing, Malaysia
	General Food Industries, Indonesia
	Sunshine Allied Investments, Singapore
Nestlé-Rowntree, Switzerland/UK	
"Kit-Kat"	Hershey, US
"Rolos"	Hershey, US
Unilever, Netherlands/UK	
"Lipton Tea"	Morinaga, Japan
United Breweries, Denmark	
"Carlsberg"	Suntory, Japan
"Tuborg"	Unicer, Portugal

Essentially, with product licensing, a food or beverage manufacturing firm with a well established brand name in one country, the licensor, licenses a firm in another country, the licensee, to manufacture and sell the branded product in the licensee's and/or third-country markets. As well as exclusive use of the brand name in the assigned markets, the licensor often provides either some technical production assistance or quality control regime. In addition, depending on the specific circumstances, the licensor may also provide the product formula or recipe, some critical ingredient(s) such as yeast strain or flavoring syrup, and also some financial assistance towards market development (sometimes in the form of foregone royalties). In turn, the licensee has production, marketing and distribution rights and obligations for the licensed product in the specified market(s), and repatriates part of the product's earnings in the form of a fixed fee and/or royalties to the licensor.

In order to get an intuitive understanding of the economic motivation for international product licensing, it is useful to focus briefly on the case of brewing licenses between firms based in the US and those based in the UK. Both the US and UK brewing industries are best described as oligopolistic with fringes of smaller firms. In the US, the three leading firms, Anheuser Busch, Miller, and Coors, each selling a portfolio of branded and heavily advertised beer products, account for an 83 per cent market share (Modern Brewery Age, March 1989). In the UK, brewing has been dominated by six firms, Bass, Allied Lyons, Whitbread, Scottish/Newcastle, Courage, and Grand Metropolitan, whose combined market share is 76 per cent (Monopolies and Mergers Commission, 1989)[1].

[1] Market concentration is likely to increase further with the recent "pubs-for-breweries" deal between Grand Metropolitan and Courage.

Although demand for beer in the UK has been static during the 1980s, there has been a marked shift to the consumption of lager[2], a type of beer similar to that consumed in the US, which tends to be brewed and marketed nationally by the major UK brewers. This change in the pattern of demand coincided with the large UK firms acquiring licenses to produce and market foreign lager brands. For example, Whitbread brews "Heineken" (Dutch) and "Stella Artois" (Belgian), whilst Courage, prior to its acquisition by Elders, brewed "Fosters" (Australian) under license, and now brews "Miller Lite" under license. The license to brew "Budweiser" is owned by Grand Metropolitan. It would seem therefore, at least by implication, that in responding to these changes in demand, some firms have found it more profitable to acquire new brands through licensing and may have done so in response to their competitors' strategies.

However, this would explain only one side of any licensing equilibrium. In this respect two additional aspects of the structure of the UK brewing sector need to be noted: first, not only do the leading brewers own many brands, they also spend large sums on brand promotion, for example in 1989, Whitbread spent £11 million (≈ $17.5 million) on advertising "Heineken" alone (Monopolies and Mergers Commission, 1989). This suggests a strong degree of pre-commitment on the part of incumbent firms, which is clearly visible to potential entrants and hence may act as a barrier to entry. Second, the leading UK brewers, unlike their US counterparts, are highly vertically integrated into beer retailing. The top six firms own over 50 per cent of the licensed "pub" outlets, which are tied to selling their owners' products. They also own a number of the "off-license" retail outlets[3].

---

[2] Lager is brewed with a top-fermenting yeast whilst bitter, a traditional-style beer in the UK, is brewed using bottom-fermenting yeast.

[3] Stores where sales are for off-premises consumption.

Consequently, firms entering the UK market would have problems securing distribution. Therefore, it would appear that direct entry, except by acquisition, would be difficult for US firms and as a result they are attempting to extract rents from imperfectly competitive UK brewers by means of brand licensing.

The specific example of brewing allows the identification of two general motivations for branded product licensing. First, when changes in demand create a need for product line extension, product licensing represents an alternative to in-house development of new brands. Second, where there are barriers to direct entry, such as high levels of advertising expenditure and vertical ties, licensing is a feasible means for a foreign firm to establish a market presence.

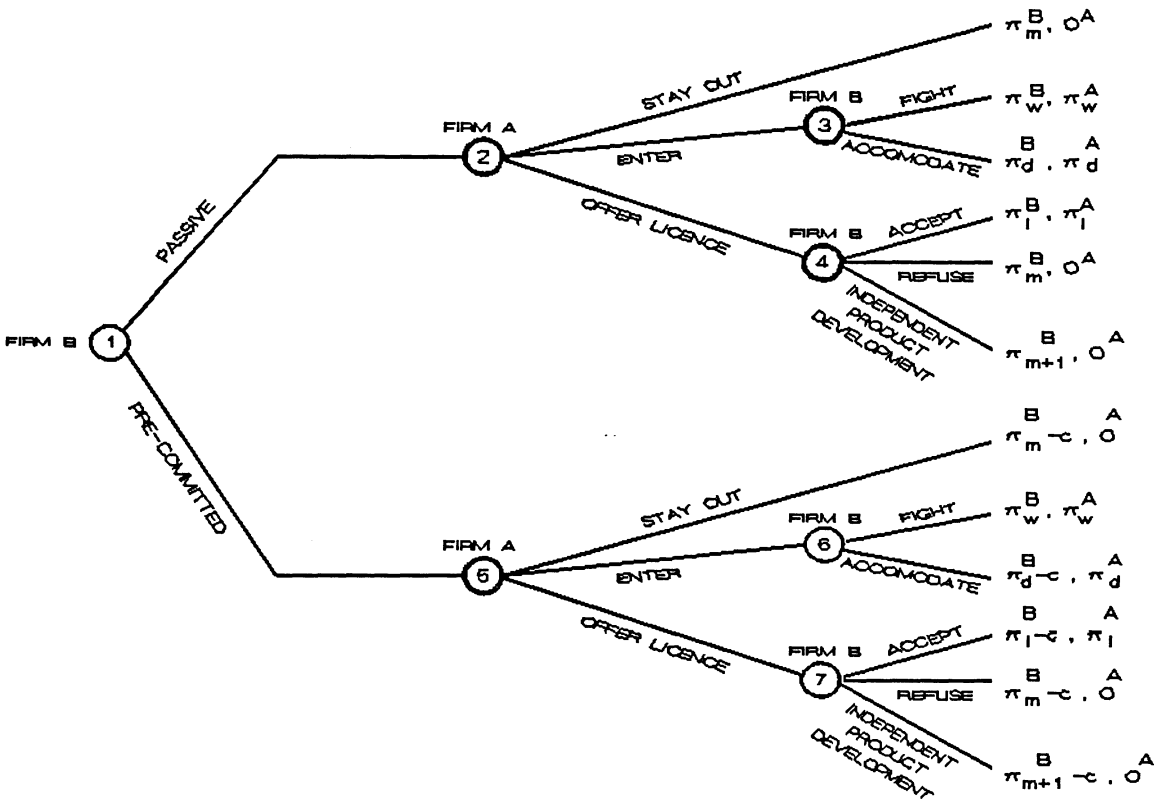
2. Motives for Product Licensing

In light of the above discussion, it is useful to consider brand licensing in a simple theoretical framework. The following equilibria are modelled in the context of a simple entry game where product licensing enters explicitly into the strategy space of both a potential licensor and licensee. Rather than focussing on the proofs in the model[4], only the main results are outlined here.

We assume a two-firm situation where firm A, a monopoly in its own market selling a branded product, may wish to license that product overseas. The license is essentially the right to produce the branded product, for which the licensor has property rights. Firm B, the potential licensee, is also a monopoly in its own market selling a branded product that is differentiated from that of firm A. B's costs are assumed to fall, due to economies of

[4] See Sheldon and Henderson (1990) for full proofs.

Figure 1 Entry/Licensing Game



scope, if it adds a second product to its portfolio. The *extensive* form of the game is shown in **Figure 1.** The game is *sequential* in that firms A and B take turns to play, initially it is treated as a "*one-shot*" game where firms have *complete* information about the structure of payoffs. The latter two assumptions are relaxed shortly.

It is also important to note that the model has been kept deliberately simple in that nothing is stated about either the terms of a license or its lifespan. All that is assumed is that a Nash bargain (see Sutton, 1986) will be struck over the distribution of the profits from the license and that firms know this in advance. This allows the model to focus on the motivations for offering and accepting a license, given a known payoff structure.

Equilibrium 1

Starting at **node 2** of the game, suppose the following condition holds:

(1) $$\pi_m^B > \pi_d^B > 0 > \pi_w^B$$

The outcome of the entry/no entry sub-game is well-known (see Dixit, 1982); fighting entry by firm A is not a *credible* threat by firm B as the profits from sharing the market in a *Nash equilibrium*, π_d^B, are greater than those from fighting, π_w^B. Hence the *perfect equilibrium* (see Selten, 1975) is that of entry by firm A and accommodation by firm B.

Given fighting by the incumbent can be ruled out, it is straightforward to identify the circumstances under which licensing will be an equilibrium set of actions for both firms. Focussing on **node 4** of the game, the condition for firm B to accept the offer of a license is:

(2) $$\pi_l^B > \pi_{m+1}^B > \pi_m^B > \pi_d^B$$

i.e. it is more profitable for the incumbent firm to accept a license, π_l^B, than either developing its own product, π_{m+1}^B, acting as a monopolist, or sharing the market. If condition 2 holds, then offering a license will be an equilibrium strategy for firm A if the following holds:

(3) $$\pi_l^A > \pi_d^A$$

where π_l^A are the licensing profits earned by firm A. Assuming (3) holds, (2) must hold, otherwise firm A will simply not offer the license and will enter the market. Although this is a strong condition for a licensing equilibrium, joint production (scope) economies for firm B may well make licensing a profitable alternative to direct entry for firm A. As Sharkey (1982) has shown, economies of scope are a sufficient condition for the existence of natural monopoly.

Equilibrium 2

Critical to the above equilibrium is the move sequence in the game, i.e. firm A has *first-mover* advantage. However, it is possible to allow firm B such an advantage in the sense that it can make irrevocable *prior commitments* incurring a sunk cost c. In the case of branded products, Salop (1979) suggests that advertising is an example of such a commitment. If such a commitment exists, then firm B can credibly threaten to fight, hence entry at **node 5** is no longer rational for firm A. So focussing on **node 7** of the game, licensing will be a rational strategy for firms A and B if the following conditions hold:

(4) $$(\pi_l^B - c) > (\pi_{m+1}^B - c) > (\pi_m^B - c)$$

(5) $$\pi_l^A > 0$$

Hence the motivation for licensing is clear: the licensor, firm A, aims to extract rents from an imperfectly competitive market overseas that it is unable to enter directly, whilst the licensee, firm B, aims to increase monopoly profits via a less costly route than independent product development.

Given these two equilibria, it is interesting to see how they change when repetition of the game and incomplete information are allowed for. In terms of repetition, the critical distinction is between *infinite* and *finite* repetitions of the game. In the case of infinite repetition, it is possible for B to fight early on and then enjoy monopoly profits in perpetuity. Hence a licensing equilibrium would emerge if (4) and (5) hold. In the case of finite repetition, because firm B has no incentive to fight in the last period, by backwards induction it has no incentive to fight in any period[5]. Therefore, in this case, a licensing equilibrium will only emerge if (2) and (3) hold.

---

[5] This is known as the "chain-store" paradox.

In the case of repetition and incomplete information, some more complex licensing equilibria emerge. In particular, if firm A is unsure whether firm B is passive or pre-committed, there is an incentive for an uncommitted firm B to fight entry in order to appear committed and also accept a license in order to deter entry. Therefore using the concept of *sequential equilibrium* (see Kreps and Wilson, 1982), it is possible to generate an equilibrium where firm A initially enters, faces an aggressive response from firm B, exits the market and then offers a license to firm B which is accepted. Hence uncertainty about the incumbent firm's behavior may generate a licensing equilibrium.

3. Summary and Conclusions

In summary, this paper indicates that the licensing of branded food and related products is an important type of international transaction in the food industry. Currently, the economic theory of licensing deals predominantly with the transfer of process technology rather than branded products. Therefore, given the observations on food brand licensing, a conceptual model of a product licensing equilibrium has been presented in order to provide an analytical background to more rigorous empirical work. This analysis suggests that if licensing is considered as an alternative strategy to entry in a simple game-theoretic structure, then in the simplest type of model, licensing is aimed at extracting rents from imperfectly competitive overseas markets.

In a more complex model, strategic interaction amongst incumbent firms and imperfect information about their payoffs may also be important factors in the decision to license products internationally. For example, incumbent firms may use licensing as a delaying tactic against future entry and entrant firms may regard it as a means of revealing information about incumbent firms. Such strategic behavior may also have an impact on

the bargaining process over terms in an agreement. An incumbent firm that successfully deters entry has an incentive to bargain for a license with a long time-horizon in order to delay future entry, while an unsuccessful entrant will require a license to provide returns over a short time period.

In conclusion, for food manufacturing firms operating in international markets, branded product licensing is potentially a superior strategic alternative to trade and direct foreign investment under particular economic conditions. Such circumstances include situations where trade is restricted by barriers such as tariffs and quotas and where direct investment is constrained by high levels of pre-commitment by incumbent firms and other barriers to entry such as vertical ties. Also, in the case of joint production economies, product licensing may even occur in the absence of barriers to either trade or foreign direct investment. Conceptually, it is possible that product licensing could be used to establish a brand presence in a market that will subsequently be entered directly by the licensor. For incumbent firms, accepting a license represents a possible deterrent to direct entry by the foreign firm. Therefore, licensing can be considered as an important international marketing strategy for firms in the food and beverage manufacturing sector.

References

Dixit, A. (1982) "Recent Developments in Oligopoly Theory", **American Economic Review-Papers and Proceedings, 72,** 12-17.

Handy, C. and J. M. MacDonald (1989) "Multinational Structures and Strategies of US Food Firms", **American Journal of Agricultural Economics, 71,** 1246-1254.

Handy, C. and D. R. Henderson (1990) "EC 1992: Implications of a Single EC Market for the US Food Manufacturing Sector." Paper presented at USDA/World Bank Conference, **EC 1992: Implications for World Food and Agricultural Trade,** Washington D.C.

Henderson, D. R. and Frank, S. D. (1990) "Industrial Organization and Export Competitiveness of US Food Manufacturers", **Organization and Performance of World Food Systems: NC-194, Occasional Paper,** OP-4.

Kreps, D. and Wilson, R. (1982) "Reputation and Imperfect Information", **Journal of Economic Theory, 27,** 253-279.

Modern Brewery Age (March 1989) **1988 Statistical Study.**

Monopolies and Mergers Commission (1989) **The Supply of Beer: A Report on the Supply of Beer for Retail Sale in the United Kingdom,** House of Commons Papers, **Cm651,** London: HMSO.

Salop, S. C. (1979) "Strategic Entry Deterrence", **American Economic Review-Papers and Proceedings, 69,** 335-338.

Sharkey, W. W. (1982) **The Theory of Natural Monopoly,** Cambridge: Cambridge University Press.

Sheldon, I. M. and Henderson, D. R. (1990) "Motives for the International Licensing of Branded Food and Related Products", **Organization and Performance of World Food Systems: NC-194, Occasional Paper,** OP-15.

Selten, R. (1975) "Reexamination of the Perfectness Concept for Equilibrium Points in Extensive Games", **International Journal of Game Theory, 4,** 470-486.

Sutton, J. (1986) "Non-Cooperative Bargaining Theory: An Introduction", **Review of Economic Studies, 53,** 709-724.

Tirole, J. (1989) **The Theory of Industrial Organization,** Cambridge MA: MIT Press.